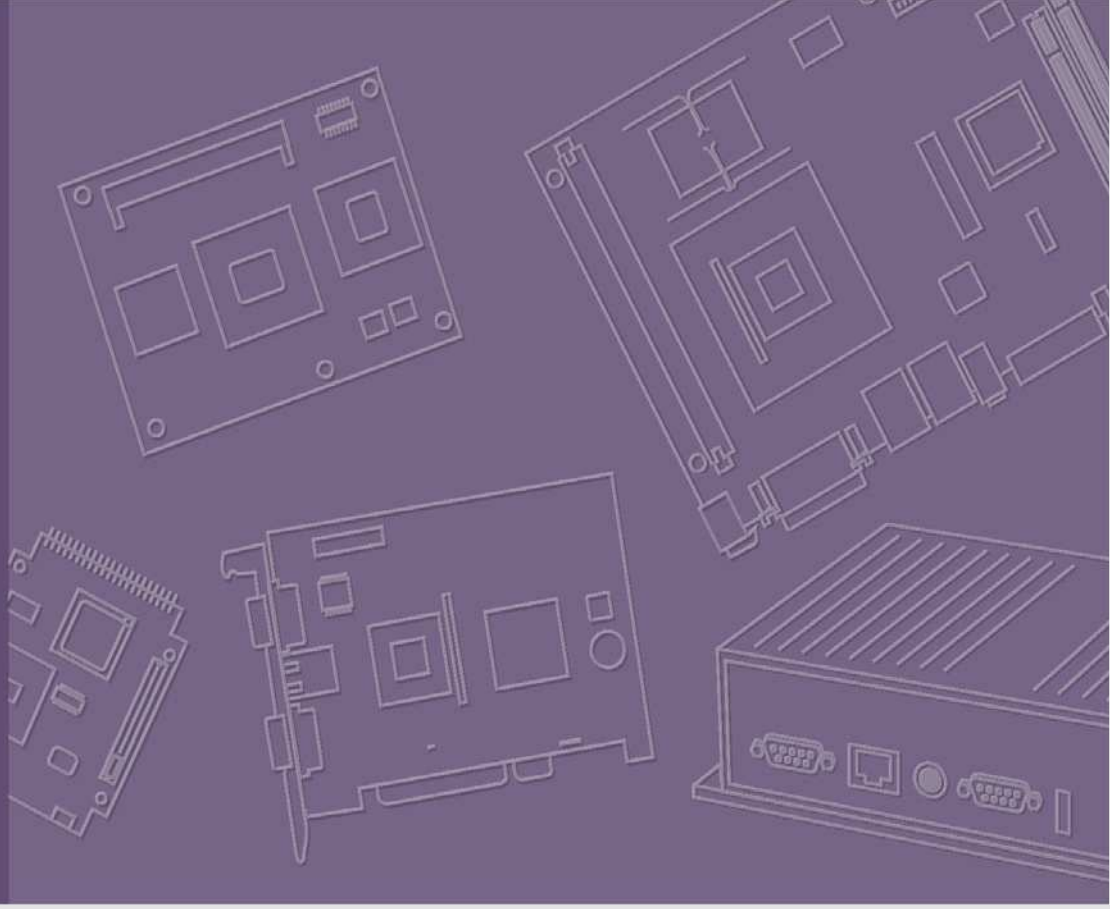

User Manual

DAC-BT05

POS M/B with Intel® Atom N270/VGA, LVDS, TTL, Giga LAN, USB, SATA, SSD

Trusted ePlatform Services

ADVANTECH

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5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

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1. Visit the Advantech web site at www.advantech.com/support where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
   - Product name and serial number
   - Description of your peripheral attachments
   - Description of your software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wording of any error messages

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Chapter 1

General Introduction

This chapter gives background information on the DAC-BT05 Sections include:

- **Introduction**
- **Product Feature**
- **Specifications**

1.1 Introduction

The DAC-BT05 is a 3.5" SBC (Single Board Computer) with Embedded Intel® Atom N270 1.6 GHz Processor. The DAC-BT05 can support DDR2 memory up to 2GB, has five USB 2.0 compatible ports, Giga LAN(1000Mbps) interface, LVDS interface. The DAC-BT05 also supports two SATA and six COM ports.

1.2 Product Features

General

- **CPU:** Intel® Atom Processor N270 1.6GHz
- **System Chipset** Intel® 945GSE +ICH7M
- **BIOS:** AWARD® 8 Mbit Flash BIOS
- **System Memory:** DDRII 400/533 MHz SDRAM up to 2GB
- **SSD:** Supports CompactFlash® Card TYPE I/II
- **Watchdog Timer:** Single chip Watchdog 255-level interval timer, setup by software
- **Battery:** Lithium 3 V/210 mAH

I/O

- **I/O Interface:** 2 x SATA(Supports 150MB/s,one on I/O board), 1 x KB/mouse, 6 x RS232(2xRS-232 on I/O board), 1 x LPT,
- **USB:** 6 x USB 2.0 compliant ports(2x USB ports on I/O board)
- **Audio:** Line out, Mic-in
- **Cash Drawer:** one RJ-11 connector (12V and 24V selectable)

Ethernet

- **Chipset:** Intel 82583V
- **Speed:** 10/100/1000 Mbps
- **Interface:** 1 x RJ45
- **Standard:** Compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 802.ab.

Display

- Chipset: Intel® 945GSE
- Memory Size: Up to 64 MB of dynamic video memory allocation
- Resolution:
  - CRT display Mode: Supports QXGA Up to 2048 x 1536
  - LVDS display Mode: Up to 800 x 600 18bits

1.3 Specifications

1.3.1 Functional Specification

Processor

Intel® Atom™ Processor N270

- Intel® Atom TM N270 at 1.6 GHz with 512 KB L2 cache
- 437-pin FCBGA8 package
- FSB: 533 MHz
- Bus Ratio: 12
- Manufacturing Technology: 45nm
- Thermal Design Power: 2.5 W
- Thermal Specification: 90℃
- VID Voltage Range: 90 V-1.100 V

Chipset (945GSE)

Memory	945GSE GMCH Supports 2 GB maximum memory One 64-bit wide DDR2 SDRAM single channel Supports DDR2 400, DDR2 533, 256 Mb, 512 Mb 1 Gb and 2Gb DDR2 technology Only x8, x16 DDR2 devices with 4 or 8 banks Support for DDR2 On-Die Termination(ODT) Socket: SODIMM Socket: 1. 200-pin SODIMM socket type *1
Graphic and Video Controllers	945GSE Intel 3.5 Gen Integrated Graphic Engine DVMT 3.0 (Dynamic Video Memory Technology) Display Dynamic Power Saving Technology 2.0 (Intel DPST 2.0) Intel Smart 2D Display Technology (S2DDT)

Chipset (ICH7M)

IDE Interface	ICH7M supports: Single, independent IDE signal channel Supports one CF device
H.D. Codec ALC886 I/F	ICH7M supports: Support for HD codec Up to 2.1 channel of PCM audio output Connectors:Line-out, Line-in, Mic-in: Pin header 2*5P (M) 2.0 mm
Concurrent PCI/PCIe Bus Controller	ICH7M chip supports: PCI 2.1 32-bit 3.3 V 33 MHz PCI interface with 5 V tolerant inputs PC/PCI DMA PCI Express 1.0a
SATA Connector	ICH7M supports: Independent DMA operation on two ports Data transfer rates of up to 1.5 Gb/s (150 MB/s) Operation of AHCI using memory space Several optional sections of the Serial ATA II SATA connectors: Connector: Serial ATA II 7 pins 1.27 mm x 2
USB Interface	ICH7M supports: 5 USB 2.0 ports which are high-speed, full- speed, and low-speed capable Port-routing logic determines whether a USB port is controlled by UHCI or EHCI
Power Management	ICH7M supports: Full ACPI (Advanced Configuration and Power Interface) 2.0 Supports S1, S5 PCI CLKRUN# and PME# support SMI# (System Management Interrupt) generation
BIOS	ICH7M supports: Award 8M SPI Flash BIOS, APM 1.2/ ACPI 1.1. FWH Type

Other Chipsets

Graphic and Video Controllers	945GSE Intel 3.5 Gen Integrated Graphic Engine ¢ CRT: Supports QXGA Up to 2048 x 1536, ¢ LVDS: Support 18-bit LVDS panel, LVDS connector : Hirose DF13 type 20 pin CRT connector : D-SUB15 at coastline
LAN	Intel 82583V. ¢ Compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 802.ab. ¢ Support 1000Mbps. Connectors: Phone Jack RJ45 8P 90D(F)
Serial ports	Fintek F81216DG (4E/$4F): ¢ Compatible UARTs with Data rates to 1.5Mbps ¢ Support IRQ Sharing among serial ports. ¢ Connectors: 3xCOM port via D-Sub 9 CONN, 1xCOM port on 2x5 wafer CONN, 2xRS232 on IO Board
Parallel port	N/A
Keyboard/Mouse connectors	PS/2 Keyboard and Mouse interface. Connector: Mini-Din 6P at coastline
Cash Drawer	Connector. ¢ one RJ11 ¢ 12V and 24V selectable

1.3.2 Mechanical Specification

1.3.2.1 Dimension (mm)

L200 mm * W125 mm

1.3.3 Electrical Specification

1.3.3.1 Power supply Voltage

Voltage requirement with AT Power:

AT:

+24 V_{DC} 5%

1.3.3.2 Power Supply Current

Supply Current (ATX)

CPU : Intel Atom N270 1.6 GHz

XP Mode	ATX	
	5 V	12 V
Typical	1.90 A	0.07 A
Suspend	1.36 A	0.06 A
Max Load	2.38 A	0.09 A

1.3.3.3 RTC Battery

Typical Voltage : 3.0 V

Nomal discharge capacity : 210 mAh

1.3.4 Environmental Specification

1.3.4.1 Operating Temperature

Operating temperature: 0 ~ 60℃ (32~140℉)

* Tested under 60℃ chamber temperature with 0.23 m/s air flow.

Operating temperature:-20~80℃

* Only for wide-temp SKU(PCM-9361FZ-1GS6A1E)

1.3.4.2 Operating Humidity

Operating Humidity:10% ~ 90% Relative Humidity, non-condensing

1.3.4.3 Storage Temperature

Standard products (0 ~ 60℃)

Storage temperature: -
20~70℃

1.3.4.4 Storage Humidity

Standard products (0 ~ 60℃)

Relative Humidity: 95% @
60℃

Chapter 2

H/W installation

This chapter explains the setup procedures of the DAC-BT05 hardware, including instructions on setting jumpers and connecting peripherals, switches, indicators and mechanical drawings. Be sure to read all safety precautions before you begin the installation procedure.

2.1 Jumpers

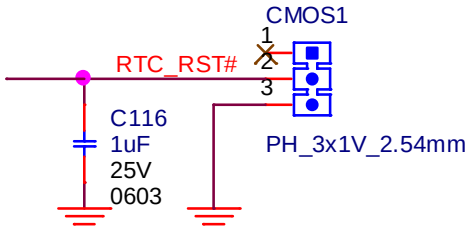
2.1.1 Jumper list

Table 2.1: Jumper list	
CMOS1	CMOS
REST1	RESET
LPC1	LPC
JP1/2/4/6	COM Port selection
JP7	Cash Drawer

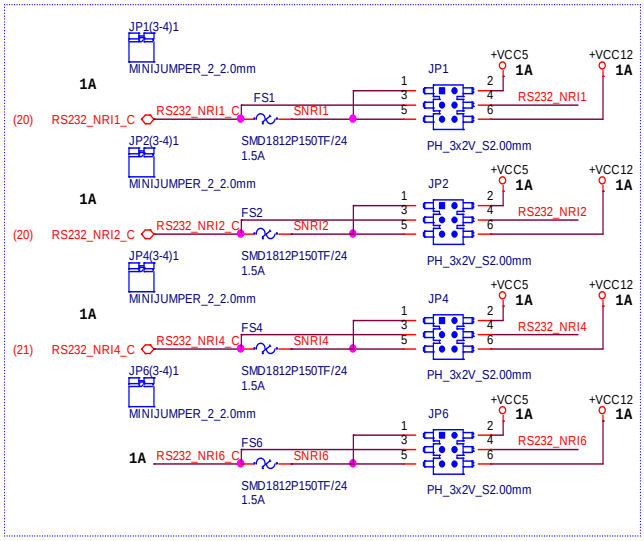
2.1.2 Jumper Settings

CMOS1:CMOS Jump Setting

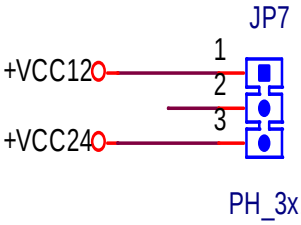
CMOS1 Jumper Setting	
1-2	Normal (Default)
2-3	Clear CMOS

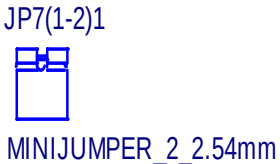


JP1/2/4/6:COM Port Setting



JP7:Cash Drawer((Default Pin 1-Pin 2))





2.2 Connectors

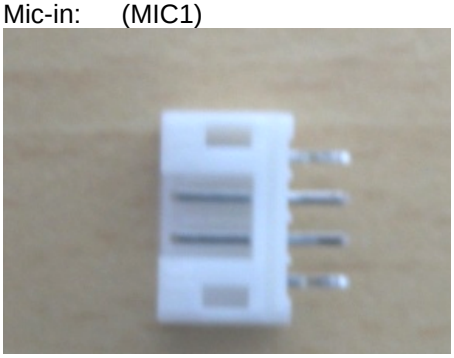
2.2.1 Connector list

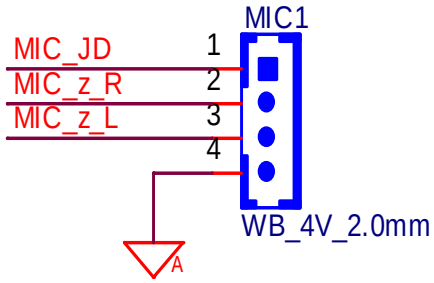
Table 2.9: Connector List	
MIC1	MIC-in
COMP1	COM
USB1	USB
LPT1	Printer
SATA1	SATA Connector
SATA PWR	SATA power
UPS1	UPS
CN6	PCIEx8
DIMM1	Memory socket
BH1	Battery holder
CF2	CF Slot
SW1	Switch
Drawer	Cash Drawer
LAN1	RJ45+USB stack Connector
CN2	COM+VGA connector
COM1	COM Stack Connector
CN3	PS2
CN5	DC out
DC_IN1	DC In

2.2.2 Connector Settings

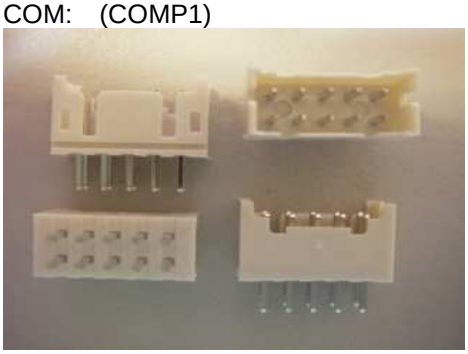
Connector Pin Define:

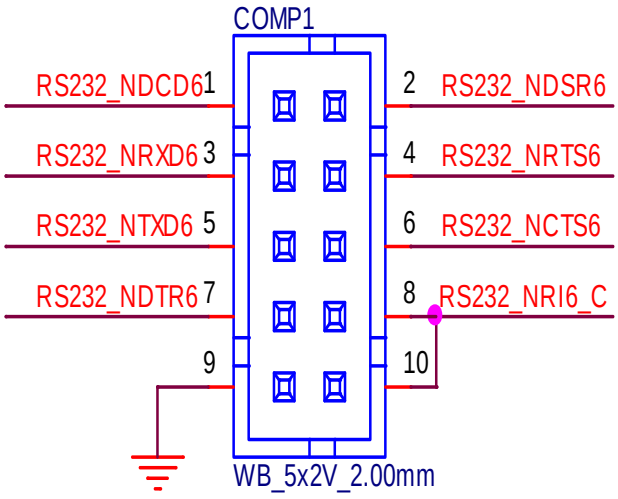
Mic-in: (MIC1)



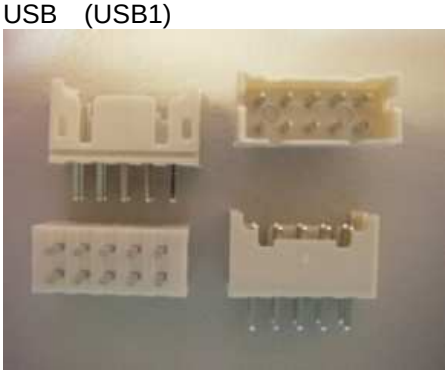


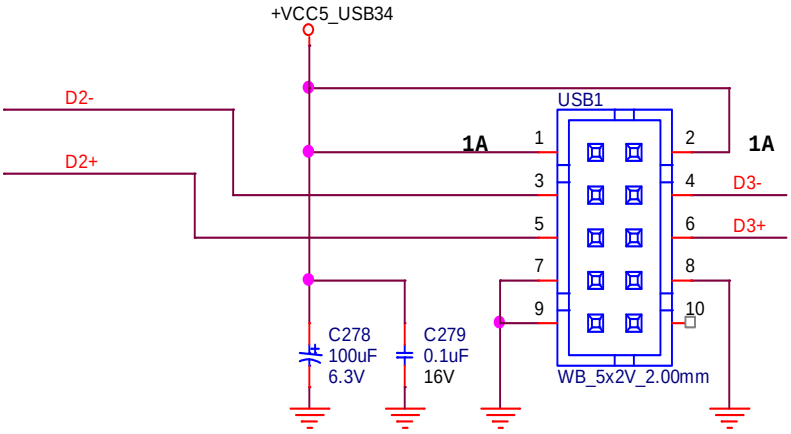
COM: (COMP1)



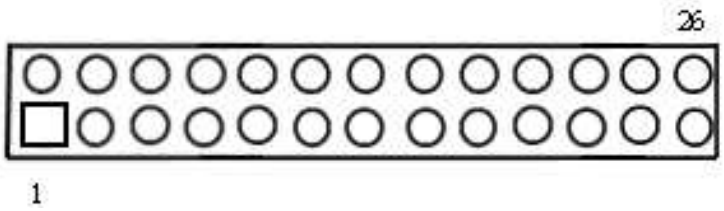


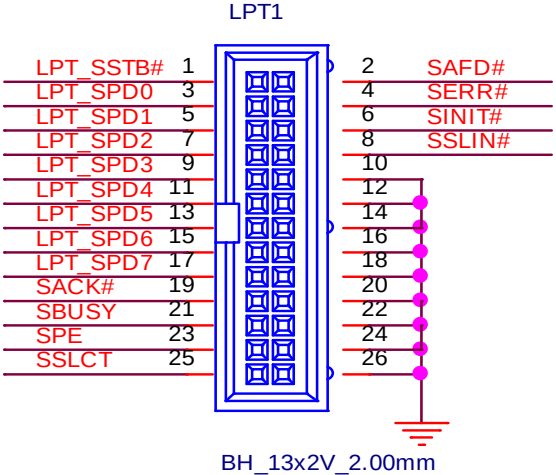
USB (USB1)



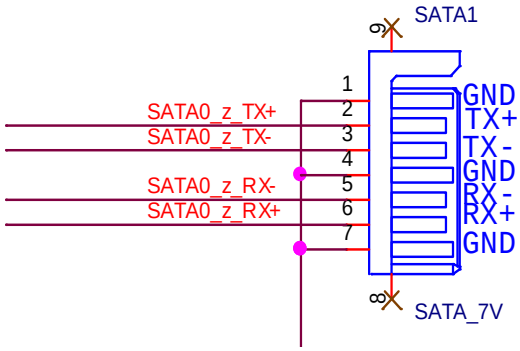


Printer (LTP1)

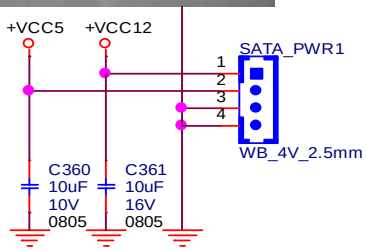




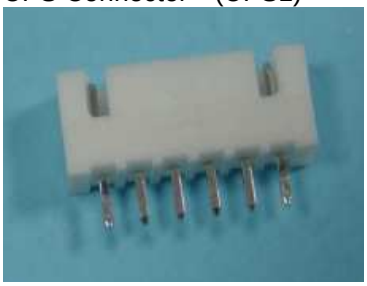
SATA Connector (SATA1)

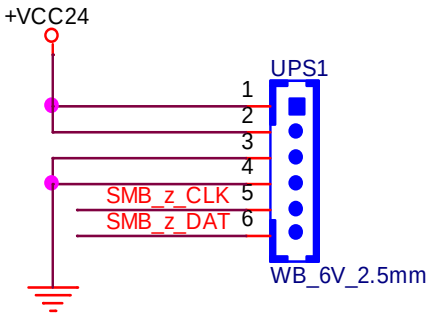


SATA Power (SATA_PWR1)



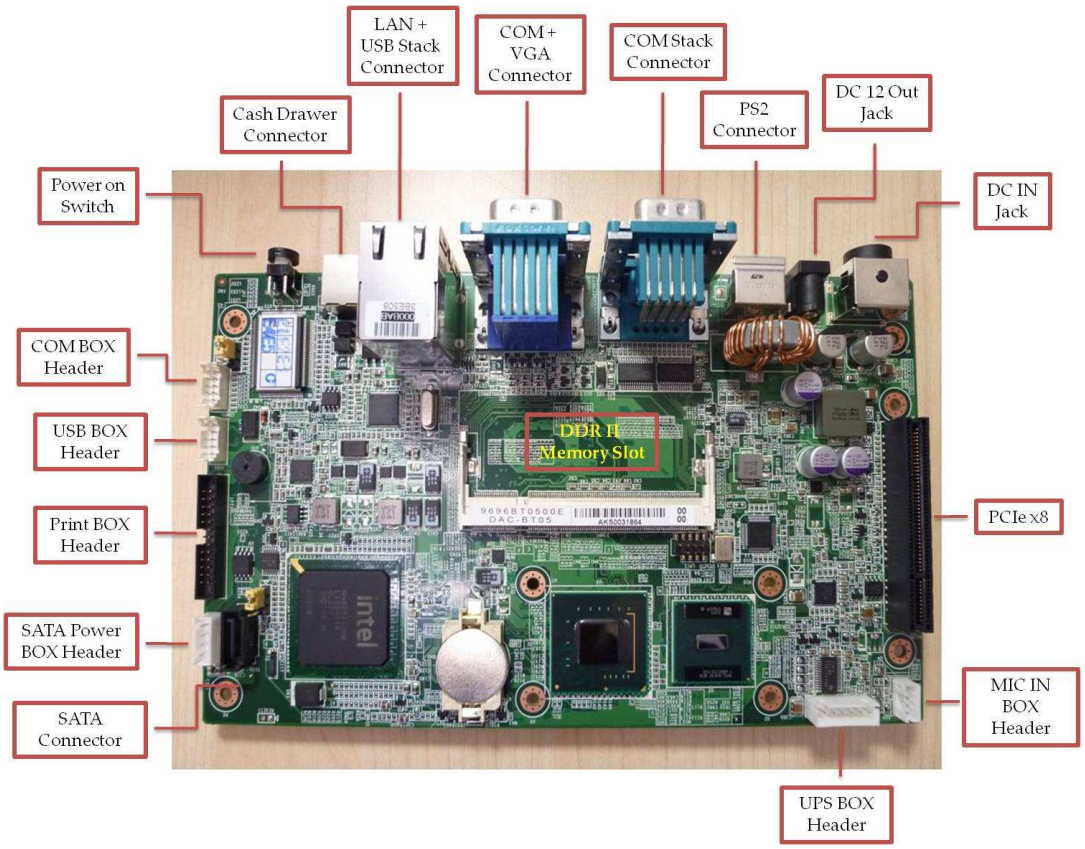
UPS Connector (UPS1)



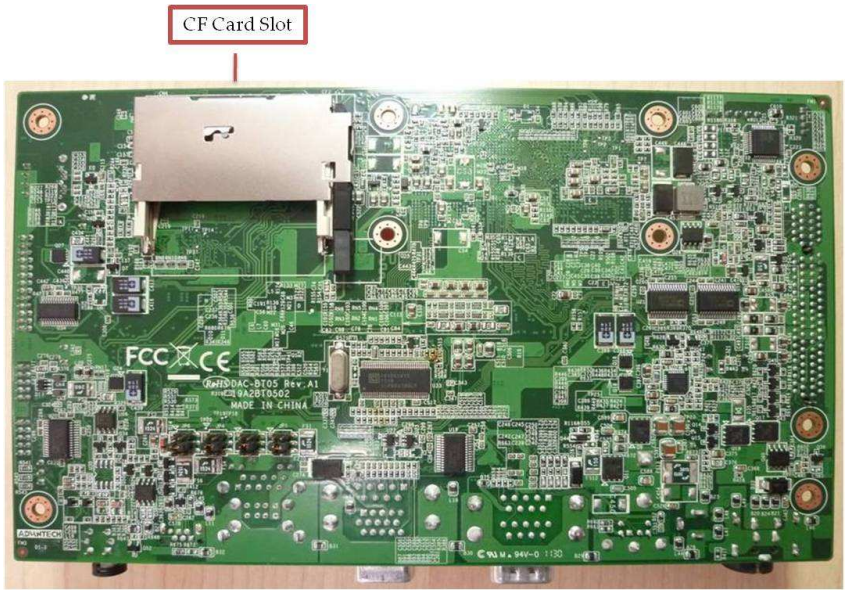


2.3 Placement

2.3.1 Front Side



2.3.1 Rear Side



Chapter 3

BIOS settings

3.1 BIOS Introduction

AwardBIOS 6.0 is a full-featured BIOS provided by Advantech to deliver superior performance, compatibility, and functionality to industrial PCs and embedded boards. Its many options and extensions let you customize your products to a wide range of designs and target markets.

The modular, adaptable AwardBIOS 6.0 supports the broadest range of third-party peripherals and all popular chipsets, plus Intel, AMD, nVidia, VIA, and compatible CPUs from 386 through Pentium, AMD Geode, K7 and K8 (including multiple proces- sor platforms), and VIA Eden C3 and C7 CPUs.

You can use Advantech's utilities to select and install features that suit you and your customers' needs.

3.2 BIOS Setup

The DAC-BT05 system has AwardBIOS 6.0 built-in, which includes a CMOS SETUP utility that allows users to configure settings as required or to activate certain system features.

The CMOS SETUP saves configuration settings in the CMOS RAM of the motherboard. When the system power is turned off, the onboard battery supplies the necessary power to the CMOS RAM so that settings are retained.

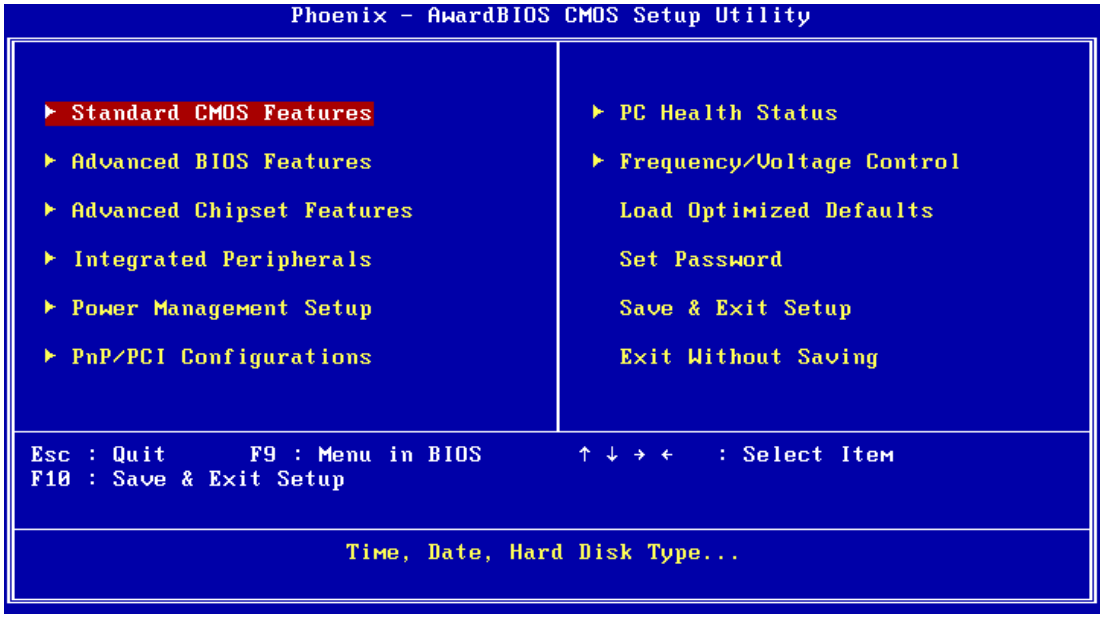
To access the CMOS SETUP screen, press the <Del> button during the power-on
BIOS POST (Power-On Self Test).

CMOS SETUP Navigation and Control Keys:

< ↑ >< ↓ >< ← >< → >	Move to highlight item
<Enter>	Select Item
<Esc>	Main Menu - Start Quit sequence
	Sub Menu - Exit the current page and return to level above
<Page Up/+>	Increase the numeric value or make changes
<Page Down/->	Decrease the numeric value or make changes
<F1>	General help, for Setup Sub Menu
<F2>	Item Help
<F5>	Load Previous Values
<F7>	Load Optimized Default
<F10>	Save all CMOS changes

3.2.1 Main Menu

Press the <Del> key during startup to enter the BIOS CMOS Setup Utility; the Main Menu will appear on the screen. Use arrow keys to highlight the desired item, and press <Enter> to accept, or enter the sub-menu.


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Features
Integrated Peripherals
Power Management Setup
PnP/PCI Configurations
PC Health Status
Frequency/Voltage Control
Load Optimized Defaults
Set Password
Save & Exit Setup
Exit Without Saving
Esc : Quit F9 : Menu in BIOS ↑ ↓ → ← : Select Item
F10 : Save & Exit Setup
Time, Date, Hard Disk Type...

- **Standard CMOS Features**

This setup page includes all the features for standard CMOS configuration.

- **Advanced BIOS Features**

This setup page includes all the features for advanced BIOS configuration.

- **Advanced Chipset Features**

This setup page includes all the features for advanced chipset configuration.

- **Integrated Peripherals**

This setup page includes all onboard peripheral devices.

- **Power Management Setup**

This setup page includes all the power management items.

- **PnP/PCI Configurations**

This setup page includes PnP OS and PCI device configuration.

- **PC Health Status**

This setup page includes the system auto-detect CPU and system temperature, voltage, and fan speed.

- **Frequency/Voltage Control**

This setup page includes CPU host clock control, frequency ratio and voltage.

- **Load Optimized Defaults**

This selection loads optimized values for best system performance configuration.

- **Set Password**

Establish, change or disable passwords.

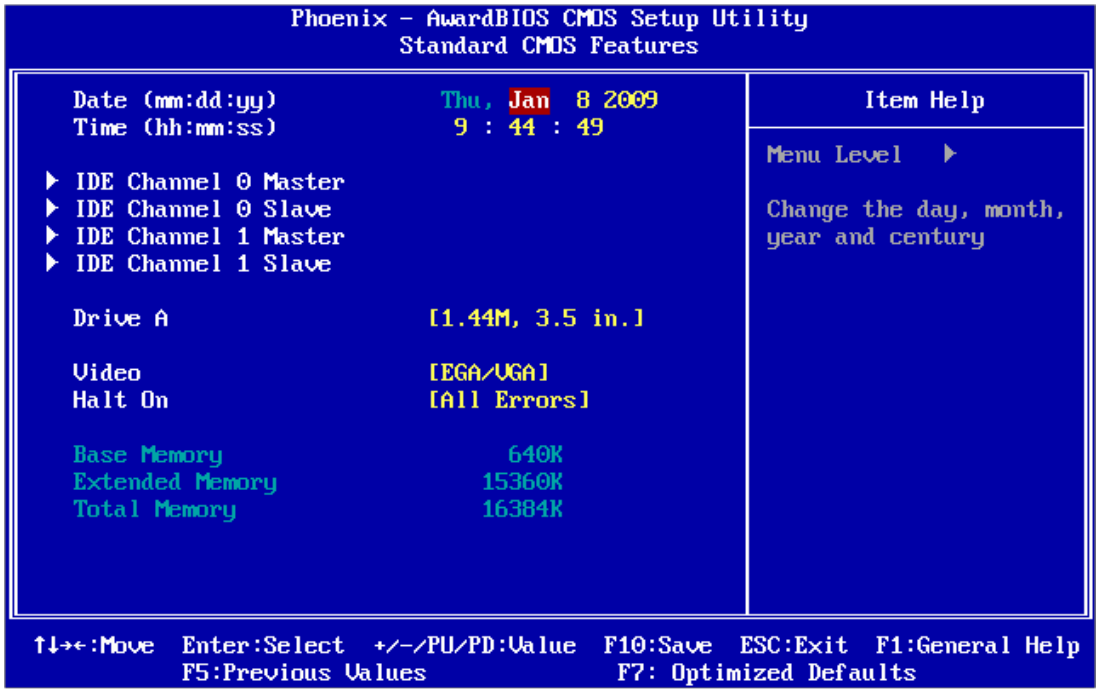
- **Save & Exit Setup**

Save CMOS value settings to CMOS and exit BIOS setup.

- **Exit Without Saving**

Abandon all CMOS value changes and exit BIOS setup.

3.2.2 Standard CMOS Features


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Thu, Jan 8 2009
Time (hh:mm:ss) 9 : 44 : 49
IDE Channel 0 Master
IDE Channel 0 Slave
IDE Channel 1 Master
IDE Channel 1 Slave
Drive A [1.44M, 3.5 in.]
Video [EGA/VGA]
Halt On [All Errors]
Base Memory 640K
Extended Memory 15360K
Total Memory 16384K
Item Help
Menu Level
Change the day, month, year and century
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

- **Date**

  The date format is <weekday>, <month>, <day>, <year>.

Weekday	From Sun to Sat, determined and display by BIOS only
Month	From Jan to Dec.
Day	From 1 to 31
Year	From 1999 through 2098

- **Time**

  The times format in <hour> <minute> <second>, base on the 24-hour time

- **IDE Channel 0/1 Master/Slave**

  IDE HDD Auto-Detection - Press "Enter" for automatic device detection.

- **Halt on**

  This item determines whether the computer will stop if an error is detected during power up.

No Errors	The system boot process will not stop for any error
All Errors	Whenever the BIOS detects a non-fatal error the system boot process will be stopped.
All, But Keyboard	The system boot process will not stop for a keyboard error, but will stop for all other errors. (Default value)
All, But Diskette	The system boot process will not stop for a diskette error, but will stop for all other errors.
All, But Disk/Key	The system boot process will not stop for a keyboard or disk error, but will stop for all other errors.

- **Base Memory**

  Displays the amount of base (or conventional) memory installed in the system.

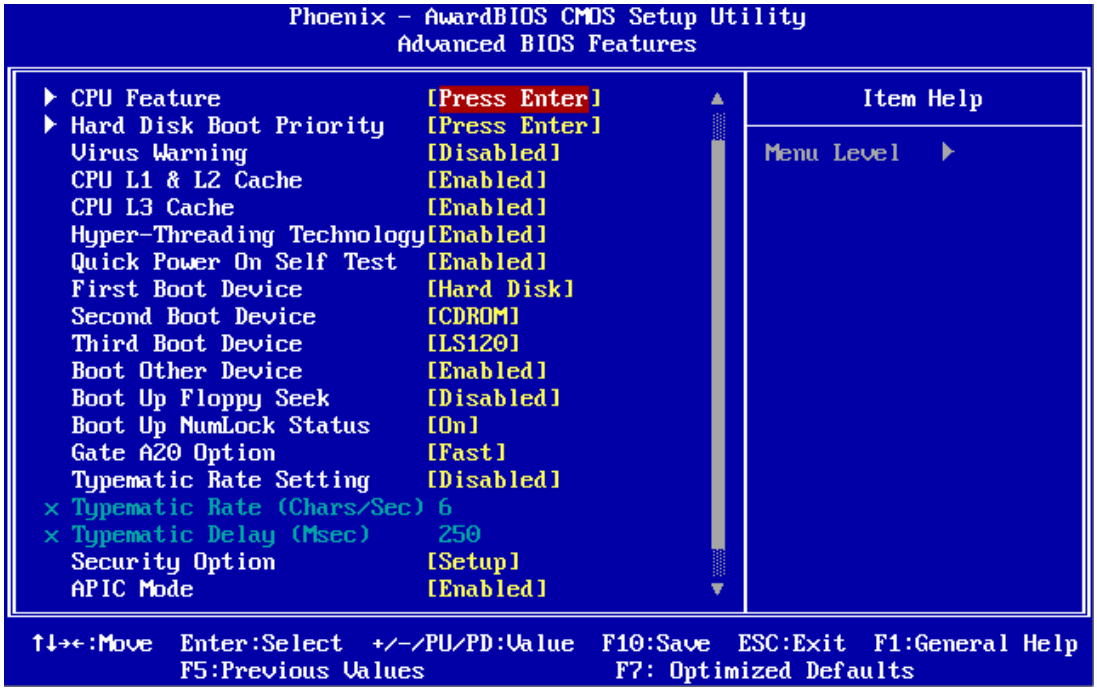
- **Extended Memory**

  Displays the amount of extended memory (above 1 MB in CPU's memory address map) installed in the system.

- **Total Memory**

  Displays the total system memory size.

3.2.3 Advanced BIOS Features


Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
CPU Feature [Press Enter]
Hard Disk Boot Priority [Press Enter]
Virus Warning [Disabled]
CPU L1 & L2 Cache [Enabled]
CPU L3 Cache [Enabled]
Hyper-Threading Technology [Enabled]
Quick Power On Self Test [Enabled]
First Boot Device [Hard Disk]
Second Boot Device [CDROM]
Third Boot Device [LS120]
Boot Other Device [Enabled]
Boot Up Floppy Seek [Disabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Typematic Rate Setting [Disabled]
x Typematic Rate (Chars/Sec) 6
x Typematic Delay (Msec) 250
Security Option [Setup]
APIC Mode [Enabled]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

- **CPU Feature**

  This item allows the user to adjust CPU settings such as CPU ratio, VID and
  Thermal, and special features like XD flag.

- **Hard Disk Boot Priority**

  This item allows the user to select the boot sequence for system devices such as HDD, SCSI, and RAID.

- **CPU L1 & L2 Cache [Enabled]**

  This item allows user to enable CPU L2 cache and ECC checking function.

- **CPU L3 Cache [Enabled]**

  This item allows the user to enable/disable CPU L3 cache.

- **Hyper-Threading Technology [Enabled]**

  This item allows the user to enable/disable Hyper-threading support for the Intel® Pentium® 4 processor with HT Technology.

- **Quick Power On Self Test [Enabled]**

  This field speeds up the Power-On Self Test (POST) routine by skipping re-testing a second, third and fourth time. The default setting is enabled.

- **First / Second / Third / Other Boot Drive**

Hard Disk	Sets boot priority for the hard disk.
CDROM	Sets boot priority for CDROM.
USB-FDD	Sets boot priority for USB-FDD.
USB-ZIP	Sets boot priority for USB-ZIP.
USB-CDROM	Sets boot priority for USB-CDROM.
LAN	Sets boot priority for LAN.
Disabled	Disables this boot function.

- **Boot Up NumLock Status [On]**

  This item allows the user to activate the Number Lock key at system boot.

- **Gate A20 Option [Fast]**

  This item allows the user to switch on or off A20 control by port 92.

- **Typematic Rate Setting**

  This item allows the user to set the two typematic control items.

  This field controls the speed of

  - Typematic Rate (Chars/Sec)

  This item controls the speed at which the system registers auto repeated key-strokes.

  The eight settings are: 6, 8, 10, 12, 15, 20, 24 and 30.

  - Typematic Delay (Msec)

  This item sets the key press delay time before auto repeat begins. The four delay rate options are: 250, 500, 750 and 1000.

- **Security Option [Setup]**

System	System requires correct password before booting, and also before permitting access to the Setup page.
Setup	System will boot, but requires correct password before permitting access to Setup. (Default value)

- **APIC Mode[Enabled]**

  This item allows the user to enable/disable the "Advanced Programmable Interrupt Controller". APIC is implemented in the motherboard and must be sup- ported by the operating system; it extends the number of IRQs available.

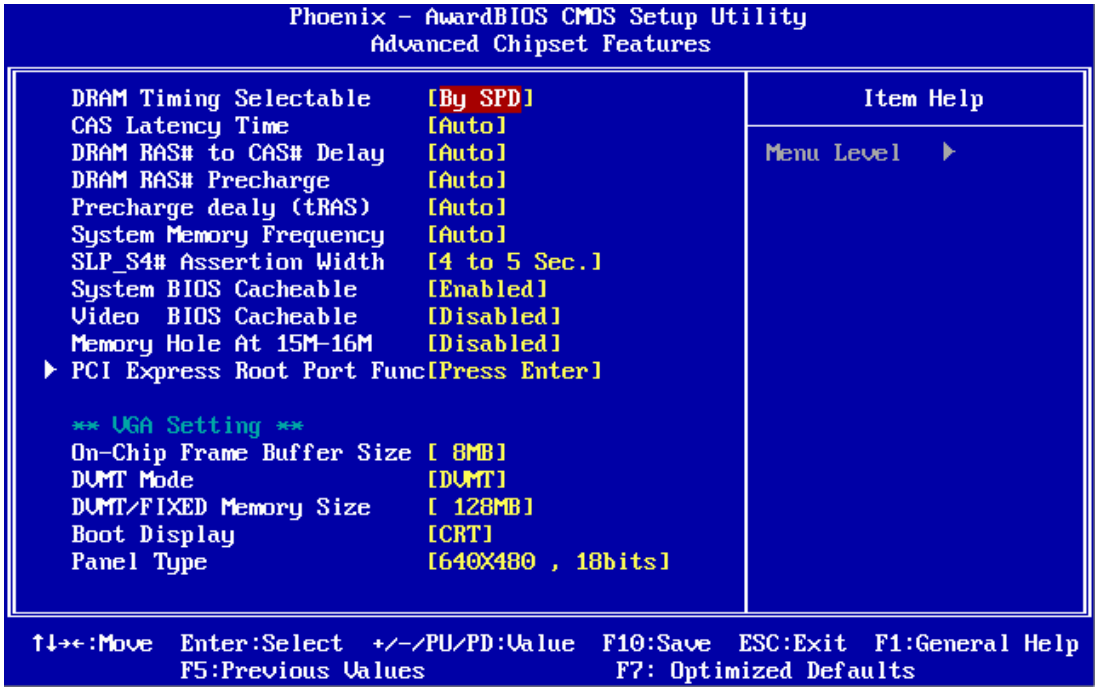
- **MPS Version Control for OS [1.4]**

  This item sets the operating system multiprocessor support version.

- **OS Select For DRAM > 64 MB [Non-OS2]**

  Select OS2 only if the system is running the OS/2 operating system with greater than 64 MB of RAM on the system.

3.2.4 Advanced Chipset Features

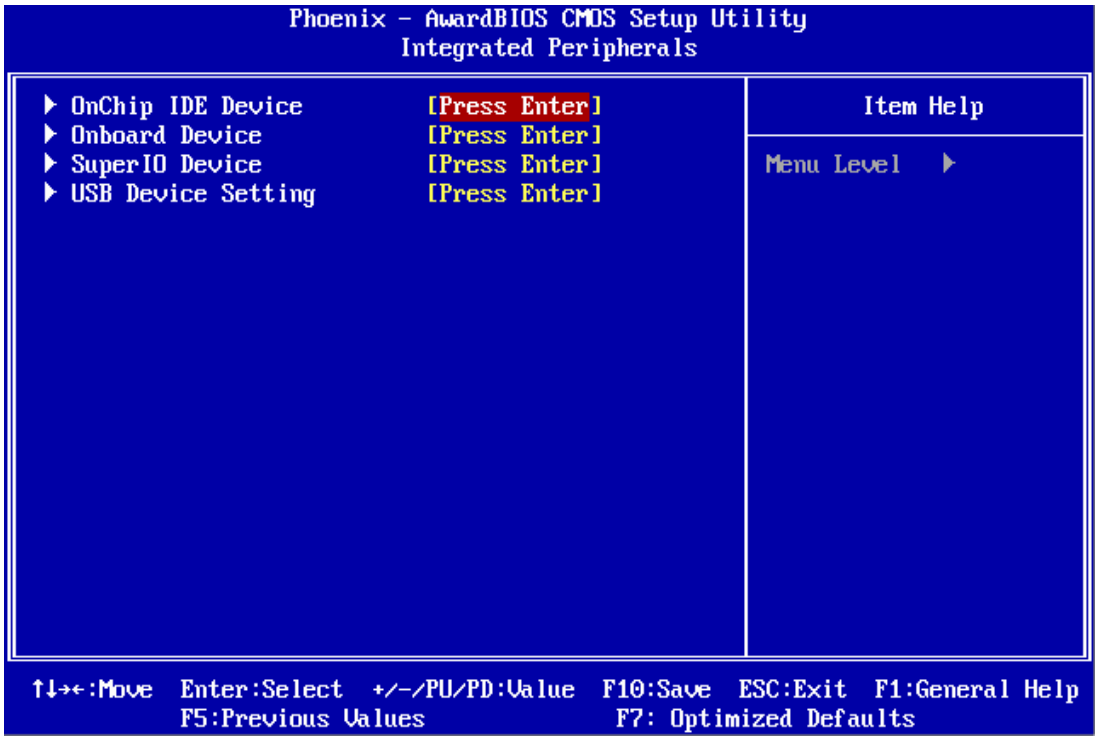

Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features
DRAM Timing Selectable [By SPD]
CAS Latency Time [Auto]
DRAM RAS# to CAS# Delay [Auto]
DRAM RAS# Precharge [Auto]
Precharge dealy (tRAS) [Auto]
System Memory Frequency [Auto]
SLP_S4# Assertion Width [4 to 5 Sec.]
System BIOS Cacheable [Enabled]
Video BIOS Cacheable [Disabled]
Memory Hole At 15M-16M [Disabled]
PCI Express Root Port Func [Press Enter]
** VGA Setting **
On-Chip Frame Buffer Size [8MB]
DVMT Mode [DVMT]
DVMT/FIXED Memory Size [128MB]
Boot Display [CRT]
Panel Type [640X480 , 18bits]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Note! *The "Advanced Chipset Features" screen controls the configuration of the board's chipset register settings and performance tuning - the options on this screen may vary depending on the chipset type. It is strongly recommended that only technical users make changes to the default settings.*

- **DRAM Timing Selectable [By SPD]**
  This item enables users to set the optimal timings for items 2 through 5, system default setting of "By SPD" to follow the SPD information and ensure the system running in stable and optimal performance.
- **CAS Latency Time [Auto]**
  This item enables users to set the timing delay in clock cycles before SDRAM start a read command after receiving it.
- **DRAM RAS# to CAS# Delay [Auto]**
  This item enables users to set the timing of the transition from RAS (row address strobe) to CAS (column address strobe) as both rows and column are separately addressed shortly after DRAM is refreshed.
- **DRAM RAS# Precharge [Auto]**
  This item enables users to set the DRAM RAS# precharge timing, system default is setting to "Auto" to reference the data from SPD ROM.
- **Precharge delay (tRAS) [Auto]**
  This item allows user to adjust memory precharge time
- **System Memory Frequency [Auto]**
  This item allows user to adjust memory frequency to improvement performance.
- **SLP_S4# Assertion Width [4 to 5 Sec]**
  This item allow user to set the SLP_S4# Assertion Width.
- **System BIOS Cacheable [Enabled]**
  This item allows the system BIOS to be cached to allow faster execution and better performance.

- **Video BIOS Cacheable [Disabled]**
  This item allows the video BIOS to be cached to allow faster execution and better performance.
- **Memory Hole At 15M-16M [Disabled]**
  This item reserves 15MB-16MB memory address space to ISA expansion cards that specifically require the setting. Memory from 15MB-16MB will be unavailable to the system because of the expansion cards can only access memory at this area.
- **PCI Express Root Port Func [Press Enter]**
  This item allows the user to adjust the PCIE port to on, off, or auto.
- **On-Chip Frame Buffer Size [8MB]**
  This item allows the user to adjust on-chip graphics of memory buffer.
- **DVMT Mode [DVMT]**
  This item allows the user to adjust Intel's Dynamic Video Memory Technology (DVMT). BIOS provides three option to choose (DVMT,FIXED and Both).
- **DVMT/FIXED Memory Size [128MB]**
  This item allows the user to adjust DVMT/FIXED graphics memory size.
- **Boot Display [LFP+CRT]**
  This item allows the user to decide which display mode to use for the boot display.
- **Panel Type(LFP1) [800 x 600, 18bits]**
  This item allows the user to adjust panel resolution.
- **Backlight Control [80%]**
  This item allow the user to adjust panel backlight.

3.2.5 Integrated Peripherals


Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
OnChip IDE Device [Press Enter]
Onboard Device [Press Enter]
SuperIO Device [Press Enter]
USB Device Setting [Press Enter]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Note! *The "Integrated Peripherals" screen controls chipset configuration for IDE, ATA, SATA, USB, AC97, MC97 and Super IO and Sensor devices. The options on this screen vary depending on the chipset.*

- **OnChip IDE Device**

  This item enables users to set the OnChip IDE device status, including IDE devices and setting PIO and DMA access modes. Some chipsets support newer SATA devices (Serial-ATA).

- **Onboard Device**

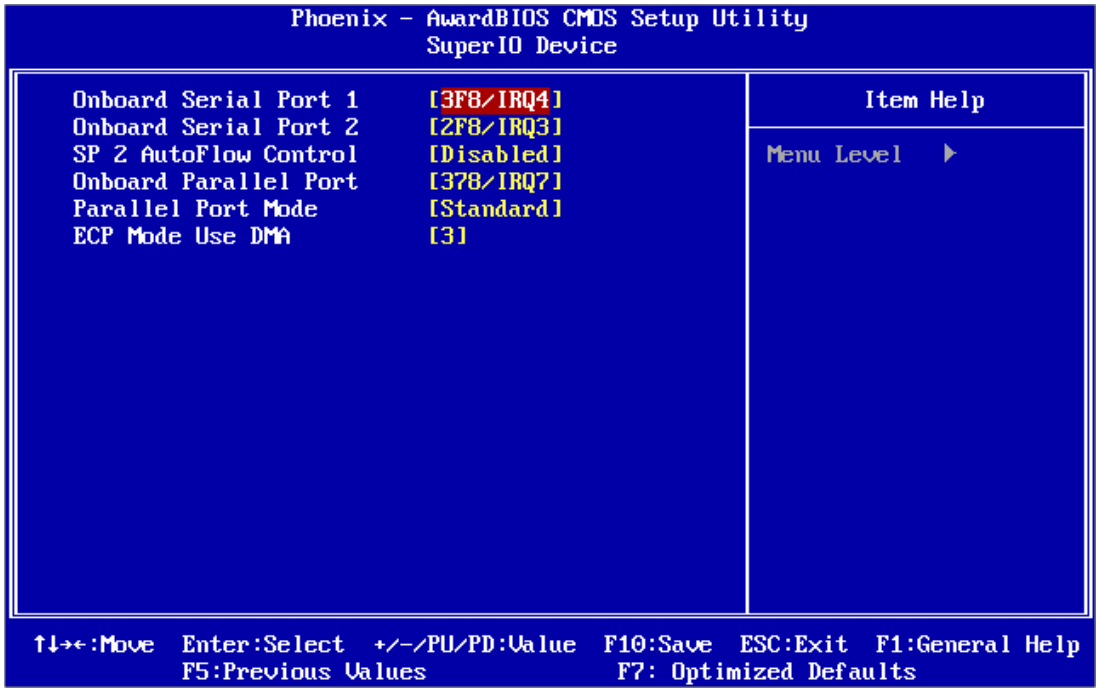
  This item enables users to set the Onboard device status, includes enable USB, AC97, MC97 and LAN devices.

- **Super IO Device**

  This item enables users to set the Super IO device status, includes enable
  Floppy, COM, LPT, IR and control GPIO and Power fail status.

- **USB Device Setting**

  This item enables users to set the USB device type.


Phoenix - AwardBIOS CMOS Setup Utility
SuperIO Device
Onboard Serial Port 1 [3F8/IRQ4]
Onboard Serial Port 2 [2F8/IRQ3]
SP 2 AutoFlow Control [Disabled]
Onboard Parallel Port [378/IRQ7]
Parallel Port Mode [Standard]
ECP Mode Use DMA [3]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

- **Onboard Serial port 1 [3F8/IRQ4]**

  This item allows the user to adjust serial port 1 address.

- **Onboard Serial port 2 [2F8/IRQ3]**

  This item allows the user to adjust serial port 2 address.

- **Onboard Serial port 3 [3E8/IRQ10]**

  This item allows the user to adjust serial port 3 address.

- **Onboard Serial port 4 [2E8/IRQ5]**

  This item allows the user to adjust serial port 4 address.

  Onboard Serial port 5 [3E0/IRQ6]

  This item allows the user to adjust serial port 5 address.

  Onboard Serial port 6 [2E0/IRQ11]

  This item allows the user to adjust serial port 6 address.

- **Onboard Parallel Port [378/IRQ7]**

  This item allows the user to adjust parallel port address and IRQ.

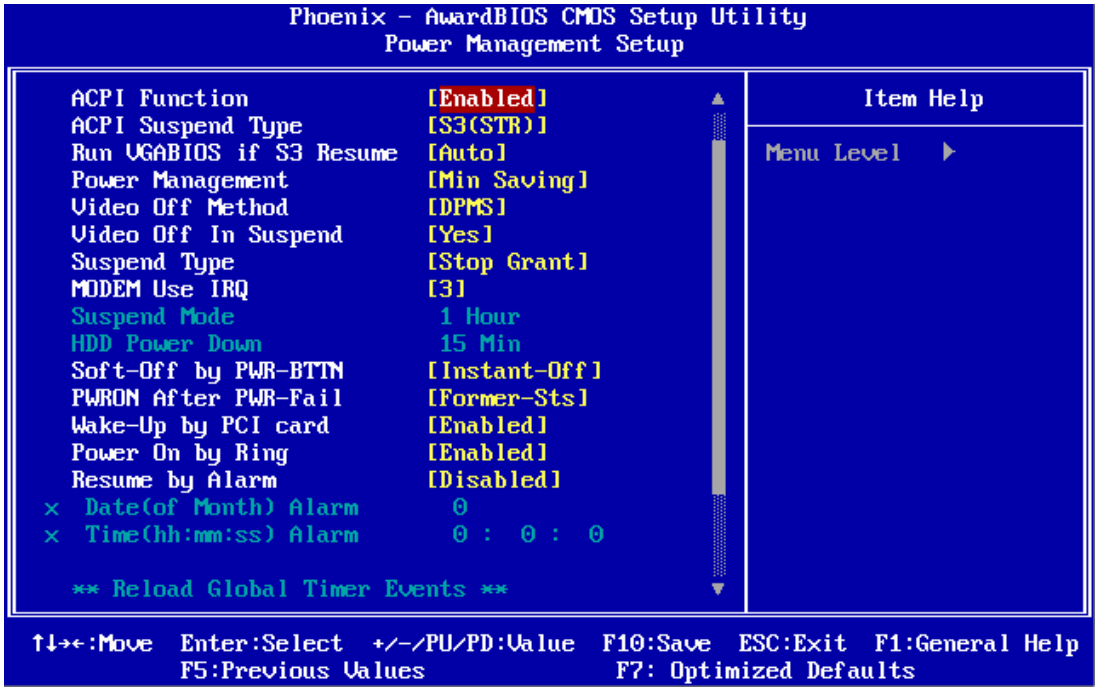
- **Parallel Port Mode [SPP]**

  This item allows the user to adjust parallel port mode.

- **ECP Mode Use DMA [3]**

  This item allows the user to adjust the ECP DMA resource.

3.2.6 Power Management Setup


Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI Function [Enabled]
ACPI Suspend Type [S3(STR)]
Run VGABIOS if S3 Resume [Auto]
Power Management [Min Saving]
Video Off Method [DPMS]
Video Off In Suspend [Yes]
Suspend Type [Stop Grant]
MODEM Use IRQ [3]
Suspend Mode 1 Hour
HDD Power Down 15 Min
Soft-Off by PWR-BTTN [Instant-Off]
PWRON After PWR-Fail [Former-Sts]
Wake-Up by PCI card [Enabled]
Power On by Ring [Enabled]
Resume by Alarm [Disabled]
x Date(of Month) Alarm 0
x Time(hh:mm:ss) Alarm 0 : 0 : 0
** Reload Global Timer Events **
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Note! *The "Power Management Setup" screen allows configuration of the system for effective energy savings while still operating in a manner consistent with intended computer use.*

¢ **ACPI Function [Enabled]**

This item defines the ACPI (Advanced Configuration and Power Management) feature that makes hardware status information available to the operating system, and communicate PC and system devices for improving the power management.

¢ **ACPI Suspend Type [S3 (STR)]**

This item allows user to select sleep state state when the computer is in suspend mode.

S1 (POS)	The suspend mode is equivalent to a software power down.
S3 (STR)	The system shuts down with the exception of a refresh current to the system memory.

¢ **Run VGABIOS if S3 Resume° [Auto]**

This item allows the user to enable run VGA bios if system resume from S3.

¢ **Power Management [Min Saving]**

This item allows user to select system power saving mode.

Min Saving	Minimum power management. Suspend Mode=1 hr.
Max Saving	Maximum power management. Suspend Mode=1 min.
User Define	Allows user to set each mode individually. Suspend Mode= Disabled or 1 min ~1 hr.

¢ **Video Off Method [DPMS]**

This item allows the user to determine the manner in which the monitor is blanked.

V/H SYNC+Blank	This option will cause the system to turn off vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Initial display power management signaling.

¢ **Video Off In Suspend [Yes]**

This item allows user to turn off video during system enter suspend mode.

¢ **Suspend Type [Stop Grant]**

This item allows user to determine the suspend type.

¢ **Modem use IRQ [3]**

This item allows user to determine the IRQ which the MODEM can use.

¢ **Suspend Mode [1 Hour]**

This item allows user to determine the time of system inactivity, all devices except the CPU will be shut off.

¢ **HDD Power Down Mode [15 Min]**

This item allows user to determine the time of system inactivity, the hard disk drive will be powered down.

¢ **Soft-Off by PWR-BTTN [Instant-Off]**

This item allows the user to define the power button functions.

Instant-Off	Press the power button to power off instantly.
Delay 4 Sec	Press and hold the power button for 4 sec to power off.

¢ **PWRON After PWR-Fail [Former-Sts]**

This item allows the user to select recovery after power fail function; this function depends on the chipset.

¢ **Wake-Up by PCI card [Enabled]**

This item allows user to defines PCI cards to wake up the system from the suspend mode.

¢ **Power On by Ring [Enabled]**

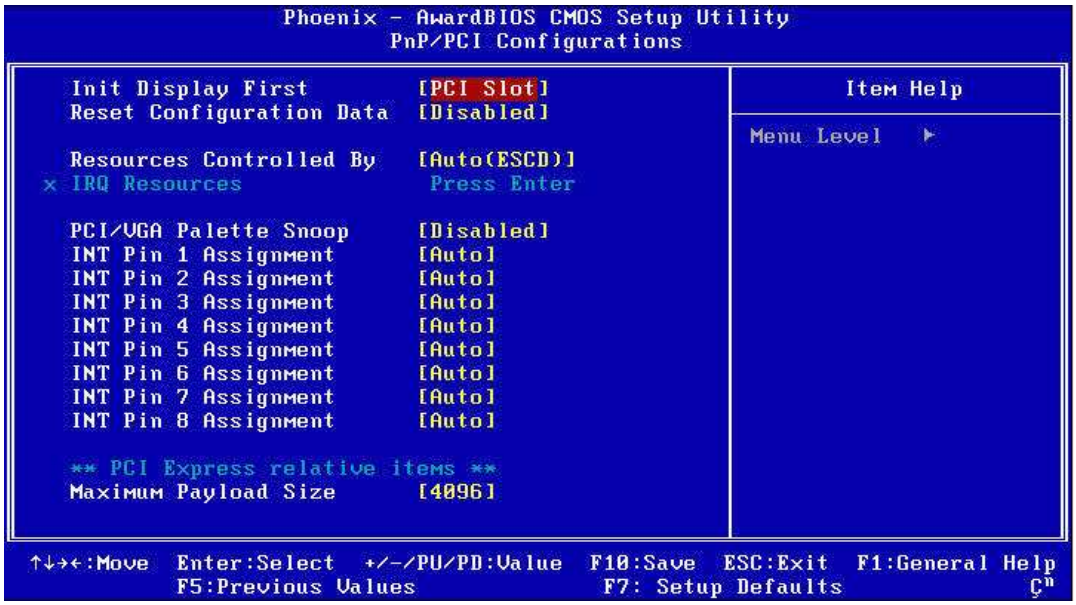
This item allows user to define the system will resume by activating of modem ring.

¢ **Resume by Alarm [Disabled]**

This item allows user to enable and key in Date/time to power on system

Disabled	Disable this function.
Enabled	Enable alarm function to power on system
Day (of month) Alarm	1-31
Time (HH:MM:SS) Alarm	(0-23) : (0-59) : 0-59)

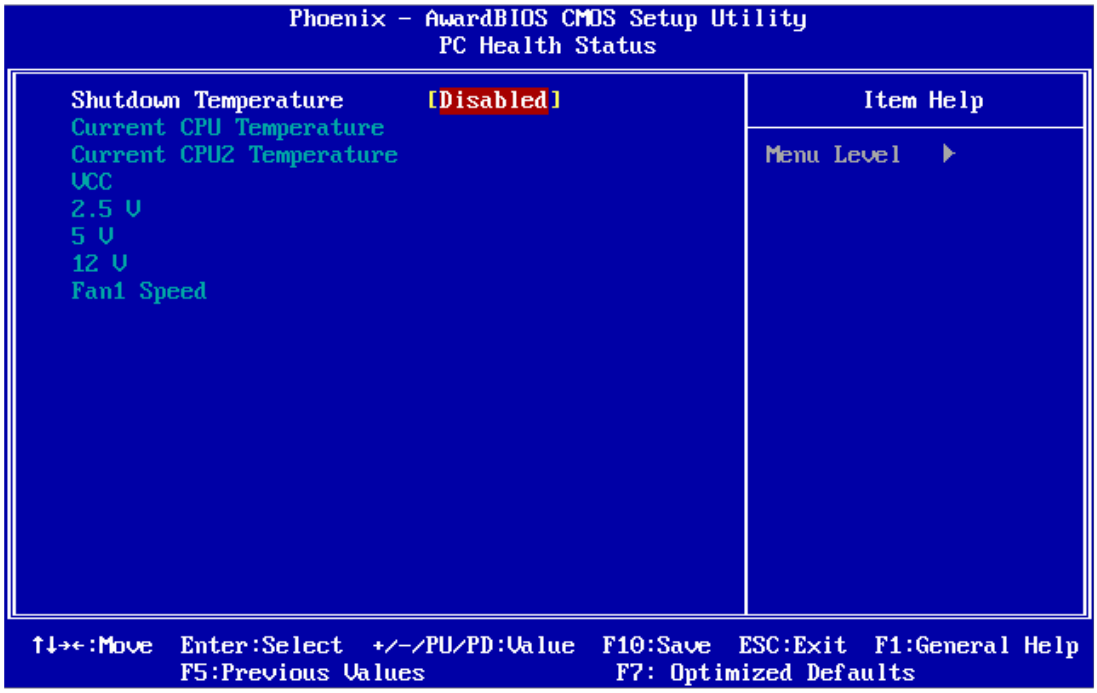
3.2.7 PnP/PCI Configurations


Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
Init Display First [PCI Slot]
Reset Configuration Data [Disabled]
Resources Controlled By [Auto(ESCD)]
x IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
INT Pin 1 Assignment [Auto]
INT Pin 2 Assignment [Auto]
INT Pin 3 Assignment [Auto]
INT Pin 4 Assignment [Auto]
INT Pin 5 Assignment [Auto]
INT Pin 6 Assignment [Auto]
INT Pin 7 Assignment [Auto]
INT Pin 8 Assignment [Auto]
** PCI Express relative items **
Maximum Payload Size [4096]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Setup Defaults

Note! *This "PnP/PCI Configurations" option sets up the IRQ and DMA (both PnP and PCI bus assignments).*

- **Init Display First [PCI Slot]**
  This item is setting for start up Video output from PCI or Onboard device.
- **Reset Configuration Data [Disabled]**
  This item allow user to clear any PnP configuration data stored in the BIOS.
- **Resources Controlled By [Auto (ESCD)]**
  - IRQ Resources
    This item allows you respectively assign an interruptive type for IRQ-3, 4, 5, 7, 9, 10, 11, 12, 14, and 15.
  - DMA Resources
    This item allows you respectively assign an interruptive type for DMA, 0, 1, 2, 3, 4, 5, 6, and 7.
- **PCI VGA Palette Snoop [Disabled]**
  The item is designed to solve problems caused by some non-standard VGA cards. A built-in VGA system does not need this function.
- **INT Pin 1~8 Assignment [Auto]**
  This item allows the user to select the interrupt request (IRQ) assigned to a device connected to the PCI interface on your system.
- **Maximum Payload Size [4096]**
  This item allows the user to adjust maximum TLP (Transaction Layer Packet) payload size.

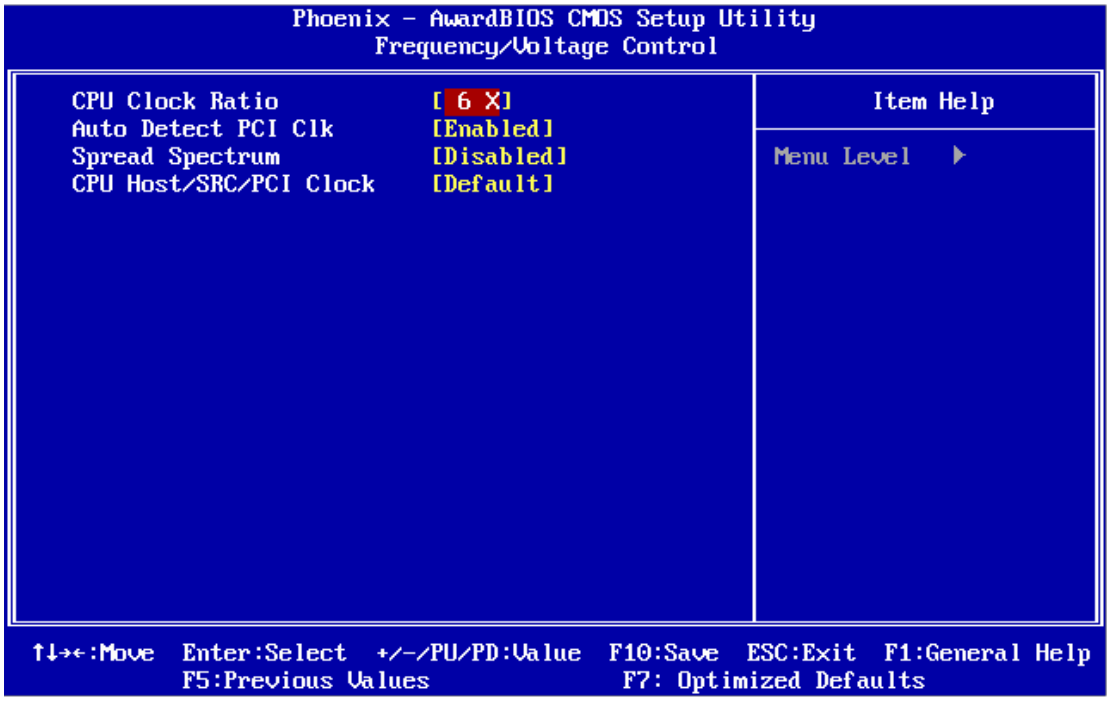
3.2.8 PC Health Status



Note! *This "PC Health Status" page reports the thermal, fan and voltage status of the board. This page may vary according to the chipset installed.*

- **Current CPU Temperature [Show Only]**
  This item displays current CPU temperature.
- **FAN 1 Speed [Show Only]**
  This item displays current system FAN(s) speed(s).
- **VCC/ 2.5 V/ 5V/ 12V [Show Only]**
  This item displays current CPU and system voltage.

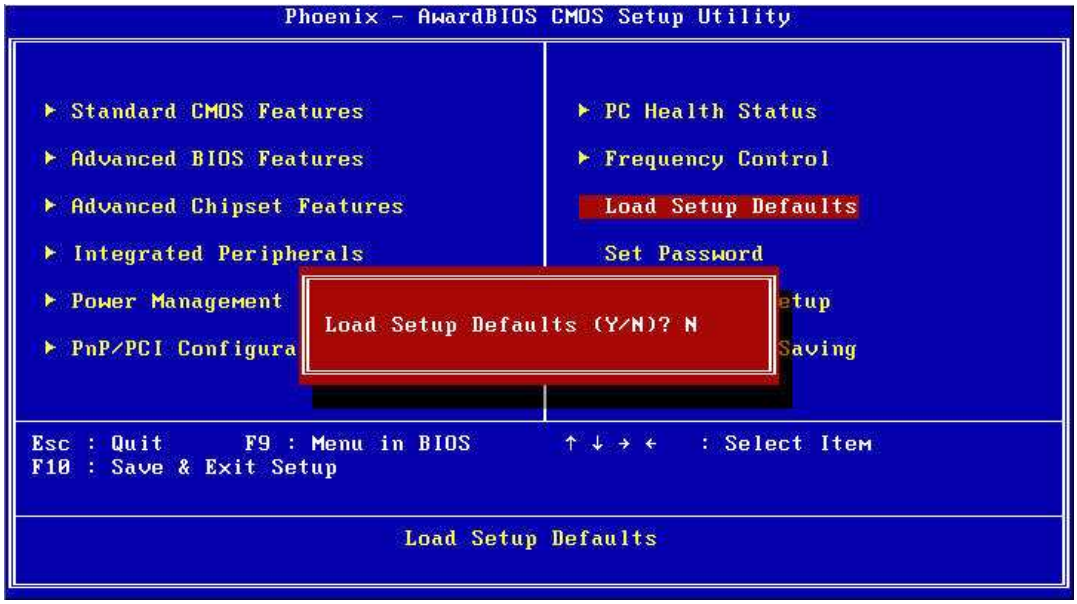
3.2.9 Frequency/Voltage Control


Phoenix - AwardBIOS CMOS Setup Utility
Frequency/Voltage Control
CPU Clock Ratio [6 X]
Auto Detect PCI Clk [Enabled]
Spread Spectrum [Disabled]
CPU Host/SRC/PCI Clock [Default]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Note! *The "Frequency/Voltage Control" screen controls the CPU host and PCI frequency. The options on this page vary depending on the chipset; items show up according to installed CPU capacities.*

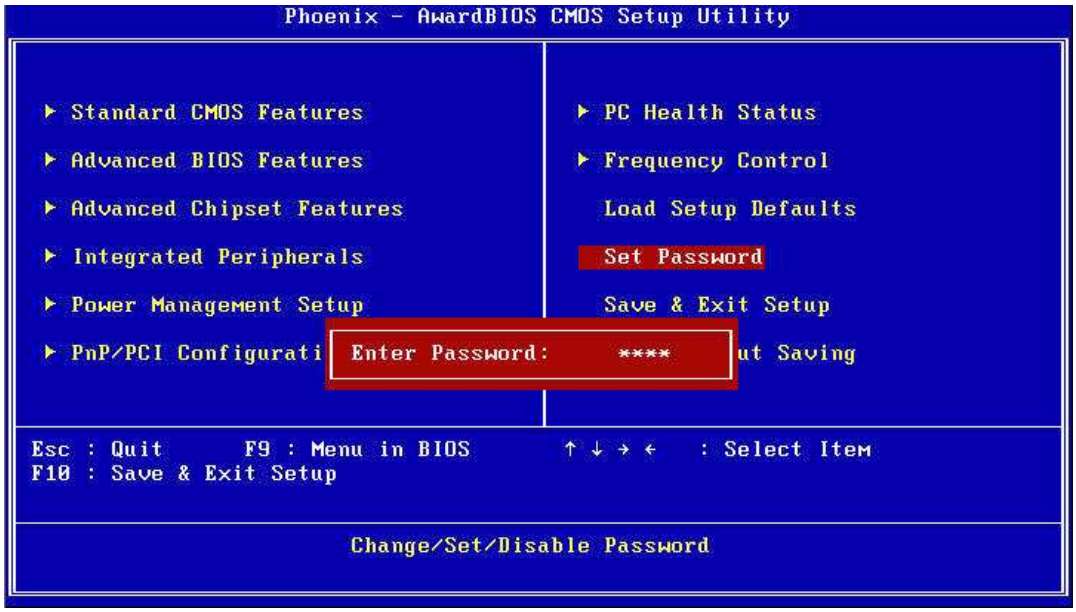
- **CPU Clock Ratio [6X]**
  This item enables users to set the CPU clock ratio by manually.
- **Auto Detect PCI Clk [Enabled]**
  This item enables users to set the PCI Clk either by automatic system detection or manually.
- **Spread Spectrum [Disabled]**
  This item enables users to set the spread spectrum modulation.
- **CPU Host/SRC/PCI Clock [Defautl]**
  This item enables users to set the CPUhost/SRC/PCI clock.

3.2.10 Load Optimized Defaults


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Features
Integrated Peripherals
Power Management
PnP/PCI Configura
PC Health Status
Frequency Control
Load Setup Defaults
Set Password
Load Setup Defaults (Y/N)? N
Esc : Quit F9 : Menu in BIOS ↑ ↓ → ← : Select Item
F10 : Save & Exit Setup
Load Setup Defaults

Note! *"Load Optimized Defaults" loads the default system values directly from ROM. If the stored record created by the setup program should ever become corrupted (and therefore unusable), select Load Setup Defaults to have these default values load automatically for the next bootup.*

3.2.11 Set Password



Note! *To enable this feature, you should first go to the "Advanced BIOS Features" menu, choose the Security Option, and select either System or Setup, depending on which aspects you want password protected. System requires a password both to boot the system and to enter Setup. Setup requires a password only to enter Setup. A password may be at most 8 characters long.*

To Establish Password

1. Choose the Set Password option from the CMOS Setup Utility Main Menu and press <Enter>.
2. When you see Enter Password, enter the desired password and press <Enter>.
3. At the Confirm Password prompt, retype the desired password, then press <Enter>.
4. Select Save to CMOS and exit, type <Y>, then <Enter>.

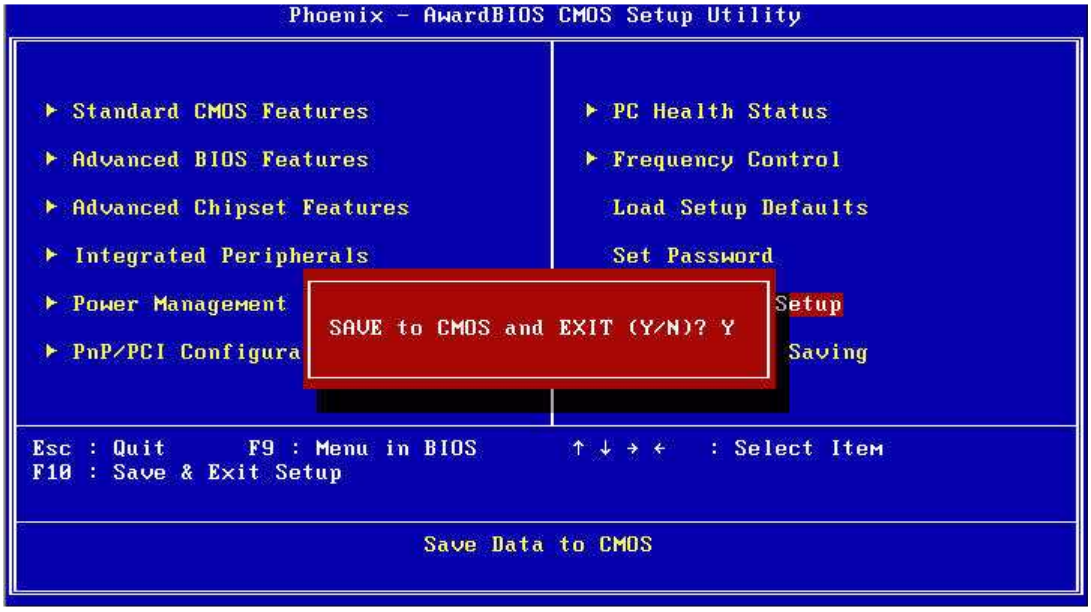
To Change Password

1. Choose the Set Password option from the CMOS Setup Utility main menu and press <Enter>.
2. When you see Enter Password, enter the existing password and press <Enter>.
3. You will see the Confirm Password prompt, type it in again, and press <Enter>.
4. Select Set Password again, and at the Enter Password prompt, enter the new password and press <Enter>.
5. At the Confirm Password prompt, retype the new password, and press <Enter>.
6. Select Save to CMOS and exit, type <Y>, then <Enter>.

To Disable a Password

1. Choose the Set Password option from the CMOS Setup Utility main menu and press <Enter>.
2. When you see the Enter Password prompt, enter the existing password and press <Enter>.
3. You will see Confirm Password, type it in again, and press <Enter>.
4. Select Set Password again, and at the Enter Password prompt, DO NOT enter anything - just press <Enter>.
5. At the Confirm Password prompt, again, DO NOT type in anything - just press <Enter>.
6. Select Save to CMOS and exit, type <Y>, then <Enter>.

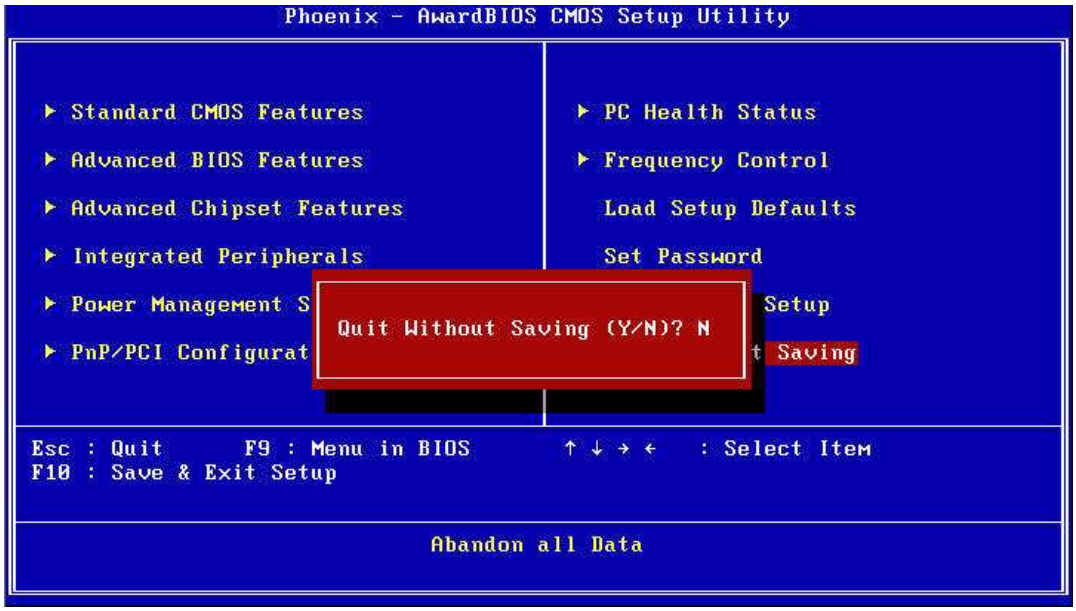
3.2.12 Save & Exit Setup



Note! *Typing "Y" will quit the BIOS Setup Utility and save user setup values to CMOS.*

Typing "N" will return to BIOS Setup Utility.

3.2.13 Quit Without Saving



Note! *Typing "Y" will quit the BIOS Setup Utility without saving any changes to CMOS.*

Typing "N" will return to the BIOS Setup Utility.

Trusted ePlatform Services

ADVANTECH

www.advantech.com

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